

FIRST QUARTER 2022 SITE MONITORING DATA

WERNING 7-2 (WH)

COGCC SPILL TRACKING # 479589

COGCC REMEDIATION # 16540

Prepared for:



2115 117th Avenue
Greeley, CO 80631

Prepared by:



6855 W. 119th Ave
Broomfield, CO 80020

TABLE 1
GROUNDWATER ELEVATION DATA
NOBLE ENERGY, INC. - Werning 7-2 WH



Monitoring Well ID	Date	Top of Casing Elevation (ft. AMSL)	Total Depth (ft. BTOC)	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)	Groundwater Elevation* (ft. AMSL)
BH01_WH	11/15/21	4665.18	14.72	3.59	ND	ND	4658.31
BH01_WH	03/09/22	4665.18	14.65	4.27	ND	ND	4657.63
BH02_WH	11/15/21	4665.20	14.84	3.40	ND	ND	4658.41
BH02_WH	03/09/22	4665.20	14.84	4.17	ND	ND	4657.64
BH03_WH	11/15/21	4665.40	14.89	3.66	ND	ND	4658.27
BH03_WH	03/09/22	4665.40	14.93	4.29	ND	ND	4657.64
BH04_WH	11/15/21	4665.22	14.83	3.29	ND	ND	4658.44
BH04_WH	03/09/22	4665.22	14.82	4.07	ND	ND	4657.66
BH05_WH	11/15/21	4665.23	14.90	3.56	ND	ND	4658.38
BH05_WH	03/09/22	4665.23	14.85	4.29	ND	ND	4657.65

Notes:

⁽¹⁾ Depth to water measurements were collected from top of casing and adjusted using survey data to reflect depth of water from ground surface.

* Groundwater elevation was corrected for product thickness (when present) using the following calculation:

Groundwater elevation = (TOC Elevation - Measured Depth to Water)+(LNAPL Thickness in Well x LNAPL Relative Density)

LNAPL relative density was estimated to be approximately 0.75

Definitions:

ft. = Feet
 AMSL = Above mean sea level
 BTOC = Below top of casing
 BGS = Below ground surface
 LNAPL = Light non-aqueous phase liquid
 ND = No LNAPL detected

TABLE 2
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - Werning 7-2 WH

Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Naphthalene (µg/L)	1,2,4-TMB (µg/L)	1,3,5-TMB (µg/L)	TDS (mg/L)	Chloride Ion (mg/L)	Sulfate Ion (mg/L)
COGCC Groundwater Standard ⁽¹⁾		5	560	700	1,400	140	67	67	<1.25 x Background	250 or <1.25 x Background	250 or <1.25 x Background
GW01	02/23/21	<1.0	<1.0	2.1	8.2	<1.0	150	51	NA	NA	NA
BH01_WH	11/15/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	937	27.6	131
BH01_WH	03/09/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	928	108	191
BH02_WH	11/15/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	889	51.4	173
BH02_WH	03/09/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	855	92.0	99.2
BH03_WH	11/15/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	892	166	388
BH03_WH	03/09/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	832	97.8	137
BH04_WH	11/15/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	841	153	364
BH04_WH	03/09/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	844	107	142
⁽²⁾ BH05_WH	11/15/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	879	16.4	99.0
BH05_WH	03/09/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	832	106	136.0

Notes:

⁽¹⁾ Groundwater standards referenced from 2 CCR 404-1, Table 915-1 (January 15, 2021).

⁽²⁾ Monitoring well used to calculate inorganic background standards.

Definitions:

< = Analytical result is less than the indicated laboratory reporting limit
COGCC = Colorado Oil and Gas Conservation Commission
µg/L = Micrograms per liter
mg/L = Milligrams per liter
NA = Not analyzed
1,2,4 - TMB = 1,2,4 Trimethylbenzene
1,3,5 - TMB = 1,3,5 Trimethylbenzene
TDS = Total Dissolved Solids

Highlighted results are equal to or exceed the COGCC Table 915-1 standard

Bold results exceed the COGCC Table 915-1 standard for groundwater inorganic parameters, site-specific background assessment is on-going for groundwater inorganic constituents.

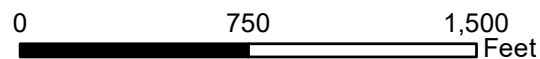
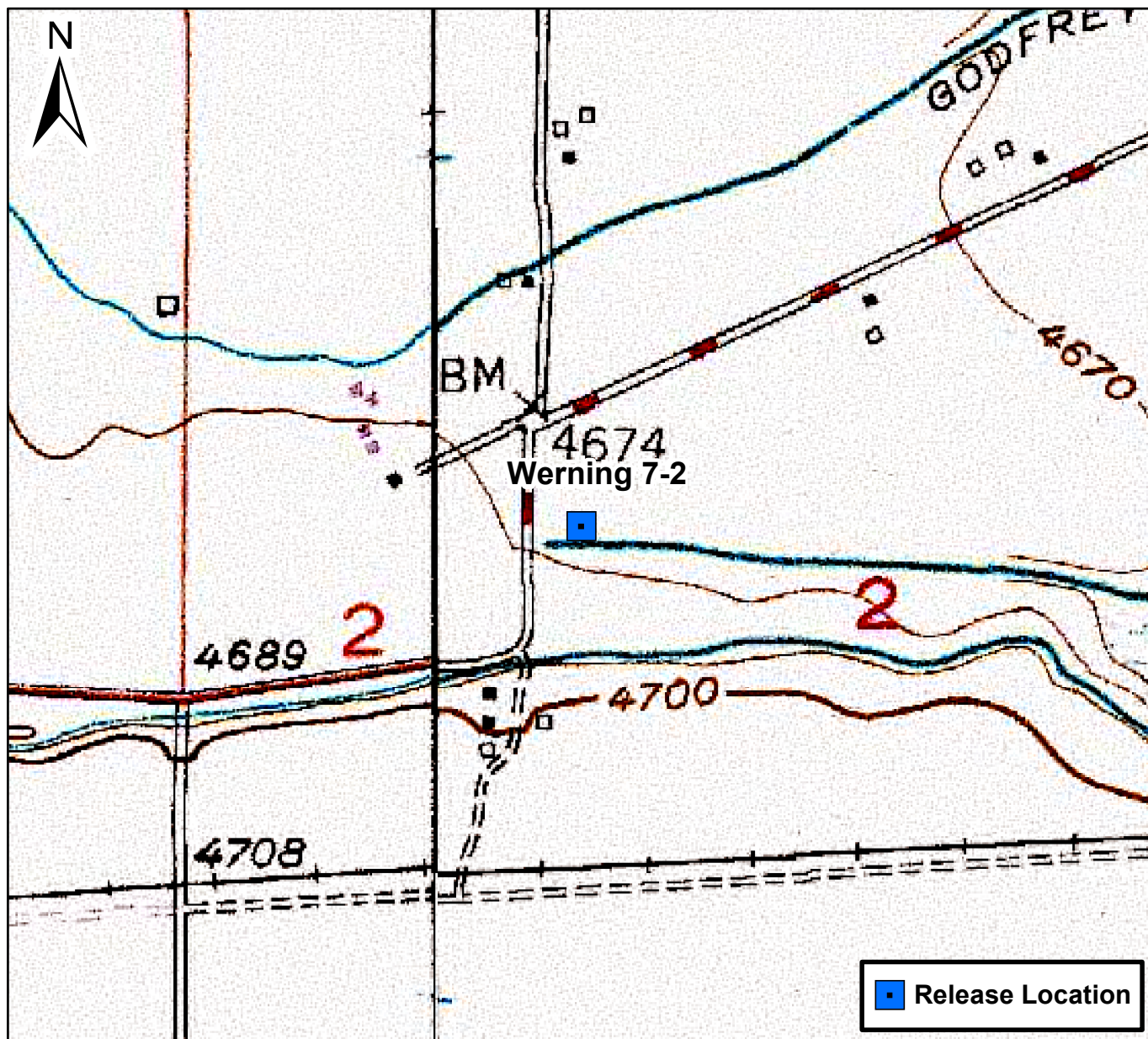


Figure 1

Site Location Map
Werning 7-2
SWNE S2 T4N R66W
Weld County, Colorado





DATE:	07/20/2022
DESIGNED BY:	JW
DRAWN BY:	DQ



TASMAN
GEOSCIENCES


Tasman Geosciences, Inc.
6855 W 119th Avenue
Broomfield, CO 80020

Noble Energy, Inc. – DJ Basin
Werning 7-2
SWNE, Section 2, Township 4 North, Range 66 West
Weld County, Colorado

Site Overview Map

FIGURE
2



DATE: 7/20/2022	 TASMAN Tasman Geosciences, Inc. 6855 W 119 th Ave. Broomfield, CO 80020	Noble Energy, Inc. – DJ Basin Werning 7-2 SENW, Section 2, Township 4 North, Range 66 West Weld County, Colorado	Groundwater Potentiometric Surface Contour Map (03/09/2022)	FIGURE 3
DESIGNED BY: JW				
DRAWN BY: JC				

BH05_WH	
Compound	03/09/22
Benzene (ug/L)	<1.0
Toluene (ug/L)	<1.0
Ethylbenzene (ug/L)	<1.0
Total Xylenes (ug/L)	<2.0
Naphthalene (ug/L)	<1.0
1,2,4-Trimethylbenzene (ug/L)	<1.0
1,3,5-Trimethylbenzene (ug/L)	<1.0
Total Dissolved Solids (mg/L)	832
Chloride (mg/L)	106
Sulfate (mg/L)	136




BH02_WH	
Compound	03/09/22
Benzene (ug/L)	<1.0
Toluene (ug/L)	<1.0
Ethylbenzene (ug/L)	<1.0
Total Xylenes (ug/L)	<2.0
Naphthalene (ug/L)	<1.0
1,2,4-Trimethylbenzene (ug/L)	<1.0
1,3,5-Trimethylbenzene (ug/L)	<1.0
Total Dissolved Solids (mg/L)	855
Chloride (mg/L)	92.0
Sulfate (mg/L)	99.2

BH04_WH	
Compound	03/09/22
Benzene (ug/L)	<1.0
Toluene (ug/L)	<1.0
Ethylbenzene (ug/L)	<1.0
Total Xylenes (ug/L)	<2.0
Naphthalene (ug/L)	<1.0
1,2,4-Trimethylbenzene (ug/L)	<1.0
1,3,5-Trimethylbenzene (ug/L)	<1.0
Total Dissolved Solids (mg/L)	844
Chloride (mg/L)	107
Sulfate (mg/L)	142

BH03_WH	
Compound	03/09/22
Benzene (ug/L)	<1.0
Toluene (ug/L)	<1.0
Ethylbenzene (ug/L)	<1.0
Total Xylenes (ug/L)	<2.0
Naphthalene (ug/L)	<1.0
1,2,4-Trimethylbenzene (ug/L)	<1.0
1,3,5-Trimethylbenzene (ug/L)	<1.0
Total Dissolved Solids (mg/L)	832
Chloride (mg/L)	97.8
Sulfate (mg/L)	137

BH01_WH	
Compound	03/09/22
Benzene (ug/L)	<1.0
Toluene (ug/L)	<1.0
Ethylbenzene (ug/L)	<1.0
Total Xylenes (ug/L)	<2.0
Naphthalene (ug/L)	<1.0
1,2,4-Trimethylbenzene (ug/L)	<1.0
1,3,5-Trimethylbenzene (ug/L)	<1.0
Total Dissolved Solids (mg/L)	928
Chloride (mg/L)	108
Sulfate (mg/L)	191

Legend

-  Monitoring Well
(Collected via Trimble GPS)
-  Excavation Extent
-  Groundwater Sample Location
(Collected via Trimble GPS)

Notes

- 1) All locations are approximate unless otherwise noted
- 2) Site Infrastructure has been removed; shown for illustrative purposes only.
- 3) **RED** value indicates concentration greater than COGCC table 915-1 groundwater standard (see table below)
- 4) **Bold** results exceed the COGCC Table 915-1 groundwater inorganic standard, site-specific background inorganic assessment is on-going.

GPS – Global Positioning System
COGCC – Colorado Oil and Gas Conservation Commission
ug/L – Microgram per liter
mg/L – Milligrams per liter

Contaminant of Concern	COGCC Concentration Standard
B - Benzene	<5 ug/L
T - Toluene	<560 ug/L
E - Ethylbenzene	<700 ug/L
X – Total Xylenes	<1,400 ug/L
N – Naphthalene	<140 ug/L
1,2,4-TMB – 1, 2, 4-Trimethylbenzene	<67 ug/L
1,3,5-TMB – 1, 3, 5-Trimethylbenzene	<67 ug/L
TDS – Total Dissolved Solids	<1.25 x background
Cl – Chloride Ion	<250 mg/L or 1.25 x background
SO ₄ – Sulfate Ion	<250 mg/L or 1.25 x background

0 ft. 10 ft. 20 ft.

Image Source: Google Earth; Google 2020

DATE: 07/20/2022

DESIGNED BY: JW

DRAWN BY: DQ



Tasman Geosciences, Inc.
6855 W 119th Avenue
Broomfield, CO 80020

Noble Energy, Inc. – DJ Basin
Werning 7-2
SENW, Section 2, Township 4 North, Range 66 West
Weld County, Colorado

Groundwater Analytical
Results Map
(03/09/2022)

Figure
4

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 18, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Werning 7-2 WH

Work Order #2203168

Enclosed are the results of analyses for samples received by Summit Scientific on 03/09/22 16:36. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Muri Premier", is displayed on a light purple rectangular background.

Muri Premier For Paul Shrewsbury
President



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Werning 7-2 WH

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/18/22 14:16

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	2203168-01	Water	03/09/22 11:06	03/09/22 16:36
BH02	2203168-02	Water	03/09/22 10:38	03/09/22 16:36
BH03	2203168-03	Water	03/09/22 10:54	03/09/22 16:36
BH04	2203168-04	Water	03/09/22 11:02	03/09/22 16:36
BH05	2203168-05	Water	03/09/22 10:34	03/09/22 16:36

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Summit Scientific

2203168

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Client: NOBLE / Tasman Geosciences Project Manager: JAKE WHITENOUR INVOICE: JACOB EVANS Page 1 of 1
Address: 6855 W. 119th Ave. E-Mail: jwhitenour@tasman-geo.com
City/State/Zip: Broomfield / CO / 80020
Phone: 303-487-1228 Project Name: Werning 7-2 L/H
Sampler Name: Alex Edmunds Project Number: N/A

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEX	Naphthalene	1,2,4-TMB	1,3,5-TMB	TDS	Chloride	Sulfate	
1	BH01	03/09/22	1106	1	3				X				X	X	X	X	X	X	X	
2	BH02		1038																	
3	BH03		1054																	
4	BH04		1102																	
5	BH05		1034																	
6																				
7																				
8																				
9																				
10																				

Relinquished by: <u>Alex</u>	Date/Time: <u>03/09/22 1636</u>	Received by: <u>Tasman's Lock Box</u>	Date/Time: <u>03/09/22 1636</u>	Turn Around Time (Check) ___ Same Day ___ 24 hours <u>X</u> ___ 48 hours Sample Integrity: Temperature Upon Receipt: <u>0.9</u> Samples Intact: <u>Yes</u> No	Notes:
Relinquished by: <u>Tasman's Lock Box</u>	Date/Time:	Received by: <u>[Signature]</u>	Date/Time: <u>3-9-22 1036</u>		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

S₂


Sample Receipt Checklist

S2 Work Order# 2203168Client: Noble-Tasman Client Project ID: Warning 7-2 L/HShipped Via: ☐ H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: ☐ ☐ ☐ ☐Matrix (check all that apply): ☐ Air ☐ Soil/Solid ☒ Water ☐ Other: _____
(Describe)Temp (°C) 0.9

Thermometer ID: G86A9201901378

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ON ICE
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HCl
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.


 Custodian Printed Name or Initials

3.9.22
 Date/Time



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Werning 7-2 WH

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
03/18/22 14:16

BH01
2203168-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/09/22 11:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BFC0194	03/10/22	03/12/22	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **03/09/22 11:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		116 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		95.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.6 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **03/09/22 11:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chloride	108	12.0	mg/L	200	BFC0252	03/14/22	03/14/22	EPA 300.0	
Sulfate	191	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/09/22 11:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Total Dissolved Solids	928	10.0	mg/L	1	BFC0225	03/11/22	03/11/22	SM2540C	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Werning 7-2 WH

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/18/22 14:16

BH02
2203168-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/09/22 10:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BFC0194	03/10/22	03/12/22	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **03/09/22 10:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		107 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		91.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **03/09/22 10:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	92.0	12.0	mg/L	200	BFC0252	03/14/22	03/14/22	EPA 300.0	
Sulfate	99.2	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/09/22 10:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	855	10.0	mg/L	1	BFC0225	03/11/22	03/11/22	SM2540C	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Werning 7-2 WH

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

03/18/22 14:16

BH03

2203168-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/09/22 10:54**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFC0194	03/10/22	03/12/22	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	
Naphthalene	ND	1.0		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	

Date Sampled: **03/09/22 10:54**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		110 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		89.4 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %		21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **03/09/22 10:54**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	97.8	12.0		mg/L	200	BFC0252	03/14/22	03/14/22	EPA 300.0	
Sulfate	137	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/09/22 10:54**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	832	10.0		mg/L	1	BFC0225	03/11/22	03/11/22	SM2540C	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Werning 7-2 WH

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

03/18/22 14:16

BH04

2203168-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/09/22 11:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BFC0194	03/10/22	03/12/22	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **03/09/22 11:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		105 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		93.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.0 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **03/09/22 11:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	107	12.0	mg/L	200	BFC0252	03/14/22	03/14/22	EPA 300.0	
Sulfate	142	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/09/22 11:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	844	10.0	mg/L	1	BFC0225	03/11/22	03/11/22	SM2540C	

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Werning 7-2 WH

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

03/18/22 14:16

BH05

2203168-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/09/22 10:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BFC0194	03/10/22	03/12/22	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **03/09/22 10:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		107 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		91.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.0 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **03/09/22 10:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	106	12.0	mg/L	200	BFC0252	03/14/22	03/14/22	EPA 300.0	
Sulfate	136	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/09/22 10:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	832	10.0	mg/L	1	BFC0225	03/11/22	03/11/22	SM2540C	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Werning 7-2 WH

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/18/22 14:16

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFC0194 - EPA 5030 Water MS

Blank (BFC0194-BLK1)

Prepared: 03/10/22 Analyzed: 03/11/22

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Naphthalene	ND	1.0	"							
1,2,4-Trimethylbenzene	ND	1.0	"							
1,3,5-Trimethylbenzene	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	13.4		"	13.3		100	23-173			
Surrogate: Toluene-d8	12.3		"	13.3		92.3	20-170			
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		98.7	21-167			

LCS (BFC0194-BS1)

Prepared: 03/10/22 Analyzed: 03/11/22

Benzene	33.7	1.0	ug/l	41.7		80.8	51-132			
Toluene	41.6	1.0	"	41.7		99.9	51-138			
Ethylbenzene	39.5	1.0	"	41.7		94.8	58-146			
m,p-Xylene	78.6	2.0	"	83.3		94.3	57-144			
o-Xylene	41.1	1.0	"	41.7		98.6	53-146			
Naphthalene	39.3	1.0	"	41.7		94.3	70-130			
1,2,4-Trimethylbenzene	42.5	1.0	"	41.7		102	70-130			
1,3,5-Trimethylbenzene	41.7	1.0	"	41.7		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	14.4		"	13.3		108	23-173			
Surrogate: Toluene-d8	13.6		"	13.3		102	20-170			
Surrogate: 4-Bromofluorobenzene	13.0		"	13.3		97.3	21-167			

Matrix Spike (BFC0194-MS1)

Source: 2203170-01

Prepared: 03/10/22 Analyzed: 03/11/22

Benzene	39.2	1.0	ug/l	41.7	ND	94.1	34-141			
Toluene	39.3	1.0	"	41.7	ND	94.3	27-151			
Ethylbenzene	40.6	1.0	"	41.7	ND	97.5	29-160			
m,p-Xylene	80.7	2.0	"	83.3	ND	96.8	20-166			
o-Xylene	42.2	1.0	"	41.7	ND	101	33-159			
Naphthalene	41.5	1.0	"	41.7	ND	99.6	70-130			
1,2,4-Trimethylbenzene	43.6	1.0	"	41.7	ND	105	70-130			
1,3,5-Trimethylbenzene	42.4	1.0	"	41.7	ND	102	70-130			
Surrogate: 1,2-Dichloroethane-d4	16.4		"	13.3		123	23-173			
Surrogate: Toluene-d8	13.9		"	13.3		105	20-170			
Surrogate: 4-Bromofluorobenzene	13.6		"	13.3		102	21-167			

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Werning 7-2 WH

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
03/18/22 14:16

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFC0194 - EPA 5030 Water MS

Matrix Spike Dup (BFC0194-MSD1)	Source: 2203170-01			Prepared: 03/10/22 Analyzed: 03/12/22						
Benzene	34.7	1.0	ug/l	41.7	ND	83.3	34-141	12.2	30	
Toluene	40.7	1.0	"	41.7	ND	97.7	27-151	3.60	30	
Ethylbenzene	41.5	1.0	"	41.7	ND	99.7	29-160	2.24	30	
m,p-Xylene	82.3	2.0	"	83.3	ND	98.8	20-166	2.05	30	
o-Xylene	43.9	1.0	"	41.7	ND	105	33-159	4.09	30	
Naphthalene	45.6	1.0	"	41.7	ND	109	70-130	9.39	30	
1,2,4-Trimethylbenzene	40.2	1.0	"	41.7	ND	96.6	70-130	7.97	30	
1,3,5-Trimethylbenzene	42.5	1.0	"	41.7	ND	102	70-130	0.259	30	
Surrogate: 1,2-Dichloroethane-d4	15.4		"	13.3		115	23-173			
Surrogate: Toluene-d8	13.4		"	13.3		101	20-170			
Surrogate: 4-Bromofluorobenzene	16.5		"	13.3		124	21-167			

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Tasman Geosciences
6855 W. 119th Ave.
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Project: Noble - Werning 7-2 WH

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
03/18/22 14:16

Anions by EPA Method 300.0 - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFC0252 - General Preparation

Blank (BFC0252-BLK1)

Prepared & Analyzed: 03/14/22

Chloride	ND	0.0600	mg/L
Sulfate	ND	0.300	"

LCS (BFC0252-BS1)

Prepared & Analyzed: 03/14/22

Chloride	2.87	0.0600	mg/L	3.00	95.8	90-110
Sulfate	14.5	0.300	"	15.0	96.9	90-110

Duplicate (BFC0252-DUP1)

Source: 2203167-01

Prepared & Analyzed: 03/14/22

Chloride	83.6	12.0	mg/L	73.8	12.5	20
Sulfate	94.8	60.0	"	85.0	10.9	20

Matrix Spike (BFC0252-MS1)

Source: 2203167-01

Prepared & Analyzed: 03/14/22

Chloride	3.83	0.0600	mg/L	3.00	73.8	NR	80-120	QM-02
Sulfate	15.4	0.300	"	15.0	85.0	NR	80-120	QM-02

Summit Scientific

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Broomfield CO, 80020

Project: Noble - Werning 7-2 WH

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

03/18/22 14:16

Total Dissolved Solids by SM2540C - Quality Control

Summit Scientific

Analyte	Result	Reporting			Spike	Source	%REC		RPD		
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes	

Batch BFC0225 - General Preparation

Blank (BFC0225-BLK1)

Prepared & Analyzed: 03/11/22

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BFC0225-DUP1)

Source: 2203147-01

Prepared & Analyzed: 03/11/22

Total Dissolved Solids 815 10.0 mg/L 814 0.0737 20

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Tasman Geosciences
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Broomfield CO, 80020

Project: Noble - Werning 7-2 WH

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/18/22 14:16

Notes and Definitions

QM-02	The RPD and/or percent recovery for this QC sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference